

Written Exam for the M.Sc. in Economics Winter 2015-16

International Macroeconomics

Final Exam

December 18 2105

(3-hour closed book exam)

Please answer in English only.

This exam question consists of 3 pages in total including this cover page.

This exam consists of 2 questions. Please answer both.

1. Are the following statements true, false or neither, and why? Explain your answer in detail. You do not need to use math for these questions but should feel free to if it helps you be precise.
 - (a) Empirically, countries as a whole tend to save in recessions and borrow in booms. This makes sense from the point of view of a theory of intertemporal consumption smoothing.
 - (b) International equity portfolios are not diversified enough.
2. Consider a global endowment economy that consists of two perfectly symmetric countries. Denote foreign country variables with stars. There are two consumption goods, and there is perfect specialization in their supplies: The home country is endowed with the world supply of X and the foreign country is endowed with the world supply of Y . Both countries consume a mix of the two goods, specifically home country residents maximize

$$E_0 \sum_{t=0}^{\infty} \beta^t u(x_t, y_t)$$

where

$$u(x, y) = \frac{(x^\theta y^{1-\theta})^{1-\sigma}}{1-\sigma}$$

and foreign country residents maximize the same function of their own consumption, $u(x^*, y^*)$. There are no international transport or trade costs.

- (a) Set up the social planners problem and solve it. Show that the allocations are given by

$$\begin{aligned} x &= \omega X \\ y &= \omega Y \\ x^* &= (1 - \omega)X \\ y^* &= (1 - \omega)Y \end{aligned}$$

where μ is the social planner's weight on the home country and $\omega(\mu)$ is an increasing function of μ (that you should solve for).

- (b) Set up the competitive equilibrium under financial autarky and solve for the allocations. Show that the allocations are given by

$$\begin{aligned} x &= \theta X \\ y &= (1 - \theta)X/p \\ x^* &= \theta p Y \\ y^* &= (1 - \theta)Y \end{aligned}$$

and the relative price of good x in terms of good y is given by $p = \frac{1-\theta}{\theta} \frac{X}{Y}$

- (c) Is the competitive equilibrium Pareto efficient? Why (not)? Explain the significance of this result and why it obtains in this model.

- (d) How would you expect the substitutability between goods x and y and the intertemporal elasticity of substitution to affect estimates of the welfare losses from financial autarky? Explain your reasoning.
- (e) How and why would you expect the result from part c) to change if there was in addition a third tradable good z that both countries value and that both countries are endowed with? You do not need to use math to answer this question, as long as you are precise with words instead. For concreteness you can assume $u(x, y, z) = x^{\theta_x} y^{\theta_y} z^{\theta_z}$ with $\theta_x + \theta_y + \theta_z = 1$ if you want.